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ABSTRACT

This study examined whether pupils' causal attribution tendencies could be influenced by teachers' attributions of their performance. In addition, the relationship between pupils' causal attributions and their school anxiety was studied. Based on Weiner's (1979) taxonomy of attributions that distinguishes between external versus internal and stable versus labile attribution, it was hypothesized (1) that if teachers consistently attributed pupil's success or failure to pupil's abilities or degree of effort, then pupil's attribution tendency will change accordingly; and (2) that student's anxiety/listlessness toward school will change to the degree that his/her attribution is modified away from the external and toward the internal direction. Results showed that it was possible to influence attribution tendencies of students, but did not show a relationship between the extent of modification of causal attributions and the reduction of anxiety. (PCB)

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The Influence of Teacher Attributions on Tendencies of Causal Attribution and Anxiety in Pupils

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During the past decade the importance of causal attribution tendencies regulating behaviour has been frequently discussed both in the field of cognitive psychology and in social learning theory, as suggested by WEINER and ROTTER, respectively. Yet only few experimental studies have been carried out which focus on attribution tendencies.

WEINER (1979) already suggested that the pupil's way of perceiving and explaining his/her own academic achievements is of emotional, cognitive, and motivational significance. A pupil who tends e.g. to attribute his/her positive performances to good fortune is not likely to be content and pleased with the results. S/he won't expect the experience of success to reoccur. S/he will, as far as motivation is concerned, rather be disposed to avoid this type of performance situations. In particular cases pupils may make reasonable use of this kind of external attribution. Inappropriately acquiring this type of explanatory pattern as a stable interpretational tendency, however, is problematic.

The present study proceeds from WEINER's taxonomy of attributions that distinguishes between the dimensions of (a) external vs. internal (locus of control) attribution and (b) stable vs. labile (or variable) attribution.

	STABLE	VARIABLE
INTERNAL	Ability/ Competence	Assiduity/ Effort
EXTERNAL	Difficulty of exercise	Chance/ Good fortune

We suppose that - among other possibilities - students acquire their modes of causal attribution under the influence of extraneous attributions, their educators being a major source. By way of achievement-related (usually unreflected) comments teachers can indoctrinate certain causal attributions, provided the teachers' behavior involves consistent and continual features. "This time you've

been unlucky" e.g. is a remark suggesting an external/variable causal attribution whereas "This failure is typical of you" introduces an internal/stable one.

In this study we aimed at examining whether, first of all, pupils' attribution tendencies can in fact be systematically influenced when teachers comment on written test performances in a particular way over a longer period of time. Second, we wanted to explore if an altering of attribution would have an effect on pupils' school anxiety or enjoyment of school, respectively.

Hypothesis 1:

If the teacher consistently attributes the pupil's success to his/her positive abilities, i.e. internal/stable, and if s/he relates failure to lack of effort, i.e. internal/labile, then the pupil's attribution tendency will change or be affirmed accordingly.

Hypothesis 2:

The student's anxiety and listlessness regarding school will decrease in the degree that his/her attribution is modified in the intended (internal) direction.

Design

We chose the following pretest-posttest design using randomized blocks:

R 01T 01P X 02T 02P (treatment group)
R 03T 03P 04T 04P (control group)

R = Randomization
O = Measurement
T = Teacher
P = Pupil
X = Treatment (attribution-modification-training)

With the notion "randomized blocks" we refer to a school class as a whole being randomly associated with either the treatment or the control groups.

Treatment

Right after evaluation of a written test, the teacher is supposed to take the perspective of the pupil he has just given a mark to, and to estimate if s/he would perceive the given piece of work as a success, an average

performance, or a failure. Then the teacher chooses one of the attributions out of a list of feedbacks suggested in the corresponding category, i.e. success, average, or failure; if the work should be perceived as successful e.g., "Look what abilities there are in you". Finally the teacher adds this feedback statement to the mark on the test sheet and hands it back as usual.

The attributions have been preformulated according to the following criteria: Success ought to be attributed in an internal/stable mode, failure in an internal/labile mode. An average performance is made up of a partial success and a partial failure, thus the result should be attributed in the internal/stable and labile modes in a combined way (e.g., "For a good mathematician, you did your calculations too superficially this time").

The following items resulted from a rating by experts which was meant to warrant content validity:

Success

1. Look what capacities there are in you.
2. Your knowledge of ..... is very satisfying.
3. You ponder well over your work.
4. Your ideas are substantial and inventive, as so often.
5. You write excellent dictations / interesting essays.
6. You're doing fine in math / in languages.
7. You're gifted for math / for languages.

Average

1. Your ideas aren't worked out well enough here.
2. In this test, you haven't made sufficient use of your knowledge.
3. You think things over, yet this time you've worked too cursory.
4. Considering your abilities, you gave up too quickly this time.
5. You do understand the exercises, but this time you were careless in your work.
6. For the good mathematician that you are, here you did your calculations too superficially.
7. Here you haven't made good use of your knowledge.

Failure

1. Too bad you've made too little an effort this time.
2. You just didn't prepare this test well enough.
3. I'm sorry you just didn't focus your attention enough here.

4. Too bad you didn't learn enough for this exercise.
5. Unfortunately, with these exercises you gave up too fast.
6. With this ..... you simply took too little pains.
7. I'm sorry to say but you've worked on your exercises too sloppily.

Teachers were instructed both in oral and written terms.

Operationalization and measurement of variables

The attribution tendencies have been laid out using WIDDEL's (1977) "Questionnaire on attribution of success and failure" (AEM 5-7). The measures for anxiety and dislike of school are based on WIECZERKOWSKI's (1979) "Anxiety questionnaire" (AFS). The modification of attribution was assessed in terms of differences of pretest and posttest attributions.

Experimental procedures

Samples:
The investigation was carried out with the help of 111 female and male pupils of the 6th grade in the Swiss canton of Valais (Wallis). These 111 subjects attented 6 different classes, 48 were girls and 63 boys. In accordance with the random-block method, we assigned 4 classes of a total of 72 pupils to the experimental group while 2 classes (39 pupils) constituted the control group (see table 1).

	N	girls	boys	age	number of classes
Experimental group	72	31	41	11.5	4
Control group	39	17	22	11.6	2
Total	111	48	63	11.5	6

Tab. 1: Experimental and control groups

Intervention:

The participants of the experimental group underwent a training for modifying attributions during a period of 10 school weeks. Every single subject was given an average of 15 performance feedbacks in the modes B+ and A-. (B+ = success is attributed to ability, A- = failure is attributed to lack of effort). The students of the control group did not get any training of this kind.

Pretest	Intervention	Posttest
1) Test anxiety	- Attribution-modification-training during 10 weeks	1) Test anxiety
2) Manifested fear	- Every pupil is given an average of 15 performance feedbacks in the direction of enhanced internal attribution	2) Manifested fear
3) Listlessness in school		3) Listlessness in school
4) Attribution tendencies (1-8)		4) Attribution tendencies (1-8)

Tab. 2: Process of experiment with EG: Pretest - Intervention - Posttest

Results

(1) Modification of attribution tendencies in the training group

The following pretest-protest and differential data were found in the experimental group. They are represented in T-values (see table 3). The significance of the differences between pretest and posttest was computed by analysis of variance.

	B+	A+	S+	Z+	B-	A-	S-	Z-
pretest	53.8	53.6	51.4	52.8	52.5	54.1	50.7	52.6
posttest	55.9	52.2	48.6	51.7	50.1	53.6	48.6	52.5
Difference	2.1	-1.4	-2.8	-1.1	-2.4	-0.5	-2.1	-0.1
Significance	$p < 0.01$		$p < 0.05$		$p < 0.05$	n.s.		

Tab. 3: Attribution tendencies of experimental group

Legende:
B + = success is attributed to ability
A + = success is attributed to effort
S + = success is attributed to simplicity of task
Z + = success is attributed to chance
B - = failure is attributed to lack of ability
A - = failure is attributed to lack of effort
S - = failure is attributed to difficulty of task
Z - = failure is attributed to chance

Commentary:

- In conformity with our hypothesis, we find an increased tendency to relate success to ability. The rise is very significant ($p < 0.01$).
- At the same time and again according to our expectations, the tendency to attribute success to simplicity of task has decreased significantly ($p < 0.05$).
- Furthermore (and in accordance with our interventional aim to help students attributing failure to lack of effort) the tendency to assimilate failure with lack of ability receded significantly ($p < 0.05$).
- Contrary to our expectations though, the tendency to relate failure to lack of effort (A-) did not increase.

(2) Modification of attribution scores within control group

Unlike the experimental group, the control group merely showed a change in the variable S+ (decrease). For details see SUPERSAXO (1984).

(3) Comparison of modifications in experimental and control group (Hypothesis 1)

In our first hypothesis, we postulated an increase of B+ as well as A- due to training. Table 4 reveals the pretest and posttest ratings as well as differential scores with regard to variable B+ for both the experimental and control group.

B +	C G	E G
Pretest	55.3	53.8
Posttest	55.4	55.9
Difference	+0.1	+2.1

Tab. 4: Pretest-, Posttest- and Differential ratings of E G and C G in variable B + (attribution of success to ability)

In accordance with our hypothesis, the experimental group shows a trend to score higher with respect to modification in ability attribution (B +) than the control group($p = 8\%$). In detailed comparison of the 4 training classes with the control group, 3 out of 4 classes show significant modification ratings in B +, while the control group practically remains unaltered. The pretest, posttest, and modification scores for variable A - (tendency to relate failure to lack of effort) are presented in table 5.

A -	C G	E G	
Pretest	50.8	54.1	
Posttest	50.0	53.6	
Difference	-0.8	-0.5	n.s.

Tab. 5: Pretest-, Posttest- and Differential values of E G and C G in variable A - (tendency to relate failure to lack of effort)

For the variable A- the difference between EG and CG (differential scores) is insignificant. With our training we could solely prove the postulated effect with regard to ability attribution, yet not for effort attribution.

(4) Relation of modification ratings for attribution and anxiety scores (Hypothesis 2)

The correlation between modification scores in B+ and A- and modification ratings of anxiety scores proved to be insignificant. Our intervention brought about a positive effect, however, with regard to listlessness in school. Listlessness decreased considerably with the subjects of the experimental group, whereas during our experiment it even slightly rose with the control group pupils.
Thus our intervention seems suited to alter ability attribution of pupils positively and will furthermore diminish listlessness at school.

Discussion

The results show that it is possible to influence attribution tendencies of students by a treatment of little intensity: Except for effort attribution related to failure, the intervention showed clear effects; the tendency to attribute success and failure in the internal/stable mode could be raised, the tendency to attribute success in the external/labile mode could be lowered, both in the intended direction of the treatment. As a point of interest, note again that this did not prove true for effort attribution. This could possibly be due to a compensatory effect implying that an increase in ability attribution could run parallel to a decrease in effort attribution. Those effects are also indicated by developmental psychological data.

The second hypothesis, concerning listlessness in school, could only be partly validated. As a possible cause, we assume that the initial level of anxiety was situated in the normal range.

The evidence of this study suggests that teachers and parents ought to be sensitized in depth regarding dimensions of verbal pedagogical interaction.

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